

### AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application:

#### Listing of Claims:

Claims 1-8: (CANCELLED)

Claim 9 (**Currently Amended**): ~~An interventional catheter assembly~~ A console unit of claim [[38]] 39, wherein the additionally incorporating an aspiration pump ~~comprises comprising a~~ multi-lobed vacuum pump that provides a consistent, high level of aspiration during operation of the ~~an~~ interventional catheter assembly.

Claim 10 (**Currently Amended**): ~~An interventional catheter assembly~~ A console unit of claim [[38]] 39, additionally having incorporating an aspiration system comprising a plurality of vacuum pumps connected in series.

Claims 11-27: (CANCELLED)

Claim 28 (**Currently amended**): ~~An interventional catheter assembly~~ A console unit of claim [[38]] 39, wherein the console unit displays output operational information including at least three of operating head rotation rate, operating head advance rate, aspiration rate, elapsed time of operation, aspiration volume, infusion rate, infusion volume and fluid flow rate at the target site.

Claim 29 (CANCELLED):

Claim 30 (**Currently Amended**): ~~An interventional catheter assembly of~~ A console unit as in claims [[38]] 39, 46 or 47, wherein the console unit comprises a control feature for selecting a level of aspiration.

Claim 31 (**Currently Amended**): ~~An interventional catheter assembly of~~ A console unit as in claims [[38]] 39, 46 or 47, wherein the console unit comprises a control feature for selecting a level of infusion.

Claims 32-38 (CANCELLED)

Claim 39 (**currently amended**): A console unit for interfacing with an interventional catheter assembly having ~~a cutter assembly~~ an operating head for removal of material from a material removal site at a body lumen or cavity, the console unit having the capability to implement and implementing control features for operating the interventional catheter assembly based on an operator's input of parameters, ~~the console unit and~~ comprising an interface accepting an operator's input of parameters and means for calculating and implementing automated operating conditions of the interventional catheter assembly based on the parameters input by the operator; the console unit additionally having a display capable of displaying information concerning operating conditions and feedback from the material removal site.

Claim 40 (**currently amended**): A console unit of claim 39, wherein the interface accepts the operator's input of least one of the following parameters: lesion length, lesion type, lesion character, restenosis, rate of blood flow, percentage of restriction, lumen type, lumen location, lumen diameter, desired ~~cutter assembly~~ operating head rotation rate, desired ~~cutter assembly~~ operating head rotation profile, desired ~~cutter assembly~~ operating head advance rate, desired ~~cutter assembly~~ operating head advance profile, desired aspiration rate, desired aspiration profile, desired infusion rate, desired infusion profile, cutter assembly size, and cutter assembly type.

Claim 41 (**currently amended**): A console unit of claim 39, wherein the automated operating conditions calculated and implemented include at least one of the following automated operating conditions: ~~cutter assembly~~ operating head rotation rate; ~~cutter assembly~~ operating head rotation profile; ~~cutter assembly~~ operating head advance rate; ~~cutter assembly~~ operating head advance profile; aspiration rate; aspiration profile; infusion rate; infusion profile; ~~cutter assembly~~ operating head size; and ~~cutter assembly~~ operating head type.

Claim 42 (**currently amended**): A console unit ~~for interfacing with an interventional catheter assembly having a cutter assembly for removal of material from a body lumen or cavity~~, the console unit comprising as in claims 46 or 47, wherein the console unit additionally comprises a

multi-lobed roller aspiration pump capable of providing constant, high levels of aspiration of liquids and/or liquid/debris mixtures and permitting fluid to flow in a conduit through the rollers of the pump at atmospheric pressure.

Claim 43 (new): A console unit of claim 39, wherein the means for calculating and implementing automated operating conditions comprises a plurality of preset, stored routines.

Claim 44 (new): A console unit of claim 39, wherein the means for calculating and implementing automated operating conditions comprises a software program provided within or in communication with the console unit.

Claim 45 (new): A console unit of claim 39, wherein the means for calculating and implementing automated operation conditions comprises hardware provided within or in communication with the console unit.

Claim 46 (new): A console unit for interfacing with an interventional catheter assembly having an operating head for removal of material from a material removal site in a body lumen or cavity, the console unit comprising at least one display and, during operation of the interventional catheter assembly, having the capability of displaying information concerning operating conditions and feedback from the material removal site including at least three operating parameters selected from the group consisting of: actual operating head rotation rate; desired operating head rotation rate; operating head advance rate; aspiration rate; aspiration volume; infusion rate; and infusion volume.

Claim 47 (new): A console unit for interfacing with an interventional catheter assembly having an operating head for removal of material from a material removal site in a body lumen or cavity, the console unit comprising at least one display and, during operation of the interventional catheter assembly, having the capability of displaying information concerning operating conditions and feedback from the material removal site, the console unit including an operating head status indicator for indicating the operating head size during operation; a speed gauge

displaying actual rotational speed of the operating head during operation; and a timing display that displays the elapsed time of operation of the operating head during operation.

Claim 48 **(new)**: A console unit as in claims 46 or 47, additionally comprising an aspiration pump.

Claim 49 **(new)**: A console unit of claim 48, wherein the aspiration pump is capable of providing constant, high levels of aspiration at rates of at least 15 ml/l through interventional catheter assemblies during operation of the interventional catheter assembly.

Claim 50 **(new)**: A console unit as in claims 46 or 47, additionally having the capability of displaying the elapsed time of operation of the aspiration pump during operation

Claim 51 **(new)**: A console unit as in claims 46 or 47, additionally having the capability of displaying the volume of aspirate withdrawn.

Claim 52 **(new)**: A console unit as in claims 46 or 47, additionally having the capability of displaying fluid flow at the material removal site.

Claim 53 **(new)**: A console unit as in claims 46 or 47, additionally having a control switch for activating and shutting down an aspiration pump.

Claim 54 **(new)**: A console unit as in claims 46 or 47, additionally having a control switch for activating and shutting down an infusate system.